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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,990	07/11/2003	Michael D. Gandrud	P06591US0	4246

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EXAMINER	
LOPEZ, FRANK D	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,990	GANDRUD, MICHAEL D.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *June 1, 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-11 and 13-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-18* is/are allowed.

6)☒ Claim(s) *1-5 and 7-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 1, 2005 has been entered.

Response to Amendment

Applicant's arguments filed June 1, 2005, have been fully considered but they are not deemed to be persuasive.

Applicant argues that Gollner teaches away from using an electrical proportional control valve, by not using it when it was readily available. Applicant is mistaken. A teaching away from using electrical proportional control valve would either require an actual statement rejecting this particular valve, or a discussion of the properties of the valve to be used, which is inconsistent with this particular valve. Lack of discussing an item does not mean that it is inappropriate. Gollner does not teach anything about electrical proportional control valves or anything about the valve which is inconsistent with an electrical proportional control valve. Therefore, Gollner's lack of discussing electrical proportional control valves can not be taken as teaching away from using an electrical proportional control valve for the modulated electrical control valve.

Applicant argues that Fluid Power Design Handbook does not teach the equivalence of electrical proportional control valve and modulated electrical control valve, since it discusses the differences between the two types of valves. Applicant further states that Fluid Power Design Handbook never says the two are equivalent, stating that they are in different classes of valves, and that the proportional solenoid valves are complex whereas the modulated valve are operated by rapidly opening and closing the valve. Applicant is mistaken. The first sentence of chapter 5, of Fluid Power Design Handbook, is "the choice is among on-off solenoid valve, proportional solenoid

valves...". One having ordinary skill in the hydraulic circuit control art would recognize that all the valves discussed in this chapter perform essentially the same function. The choice depends, not on the valve itself, but on other factors. Applicant noted the complexity of the proportional solenoid valve, and implies the simplicity of the modulated valve. This is true, but results in a simple controller for the proportional solenoid valve, rather than a more complex controller for the modulated valve. All the reasons above are clear evidence of equivalence.

Applicant argues that since Gollner uses a non-proportional electric valve, the operator is unable to select the loop flushing flow and thus the system will perform inefficiently compared to the present invention. Applicant is mistaken in their conclusion. Although Gollner uses a non-proportional electric valve, Gollner controls the valve by modulation, so that the amount of flow is controlled (e.g. column 5 line 10-16).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 7-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Gollner in view of Fluid Power Design Handbook. Gollner discloses a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); a shuttle valve (16) fluidly connected to the motor and to an electrical flow control valve (21); a control means (1) operably connected to the control valve, to open the control valve when pressure in both of the lines is below a threshold pressure (e.g. column 5 line 1-3), in addition to other parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator and the control valve is controlled by modulating switch on and switch-off time (e.g. column 5 line 13-16); but does not disclose that the electrical flow control valve is a proportional spool valve.

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Since Gollner has a modulated electrical control valve, and since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulated electrical control valves; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional spool valve for the control valve of Gollner, as taught by Fluid Power Design Handbook, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 7-9 and 11 are rejected under 35 U.S.C. § 103 as being unpatentable over Gollner in view of Fluid Power Design Handbook. Gollner discloses a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); a shuttle valve (16) fluidly connected to the motor and to an electrical flow control valve (21); a control means (1) operably connected to the control valve, to open the control valve when pressure in both of the lines is below a threshold pressure (e.g. column 5 line 1-3), in addition to other parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator and the control valve is controlled by modulating switch on and switch-off time (e.g. column 5 line 13-16); but does not disclose that the electrical flow control valve is a proportional poppet valve.

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Applicant's discussion of proportional flow control valves (page 7 last line to page 8 line 1) indicate that proportional poppet valves and proportional spool valves are well known, and therefore is considered admitted by Applicant as functionally equivalent. If

proportional poppet valves are not well known (i.e. prior art), it is unclear how they can be made, since applicant has not disclosed how to make them.

Since Gollner has a modulated electrical control valve, since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulated electrical control valves, and since Applicant's Admitted Prior Art teaches that proportional spool valves and proportional poppot valves are functionally equivalent; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional poppet valve for the control valve of Gollner, as taught by Fluid Power Design Handbook and Applicant's Admitted Prior Art, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 1-4 are rejected under 35 U.S.C. § 103 as being unpatentable over Meier in view of Gollner and Fluid Power Design Handbook. Meier discloses a loop flushing circuit comprising a hydraulic motor (26A) fluidly connected by first and second lines (including AA, BB, respectively) to a variable displacement pump (14); an electrical flow control valve (52) fluidly connected to one of the lines; a control means (22A) operably connected to the control valve, to open the control valve when pressure in the one line is low pressure side of the loop (e.g. column 4 line 29-62), in addition to other parameters (e.g. column 5 line 10-13) detected by the control means; wherein the control means is an electrical valve actuator; but does not disclose that the electrical flow control valve is a proportional spool valve.

Gollner teaches, for a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); an electrical flow control valve (21) fluidly connected to one of the lines (by a shuttle valve 16); a control means (1) operably connected to the control valve, to open the control valve based on a plurality of parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator; that the control valve is controlled by modulating switch on-and switch-off

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Since Meier discloses a control valve which controls a flushing of closed loop, since Gollner teaches modulating a control valve which controls a flushing of closed loop, and since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulating valves; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional spool valve for the control valve of Meier, as taught by Gollner and Fluid Power Design Handbook, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 1-3 and 5 are rejected under 35 U.S.C. § 103 as being unpatentable over Meier in view of Gollner and Fluid Power Design Handbook. Meier discloses a loop flushing circuit comprising a hydraulic motor (26A) fluidly connected by first and second lines (including AA, BB, respectively) to a variable displacement pump (14); an electrical flow control valve (52) fluidly connected to one of the lines; a control means (22A) operably connected to the control valve, to open the control valve when pressure in the one line is low pressure side of the loop (e.g. column 4 line 29-62), in addition to other parameters (e.g. column 5 line 10-13) detected by the control means; wherein the control means is an electrical valve actuator; but does not disclose that the electrical flow control valve is a proportional poppet valve.

Gollner teaches, for a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); an electrical flow control valve (21) fluidly connected to one of the lines (by a shuttle valve 16); a control means (1) operably connected to the control valve, to open the control valve based on a plurality of parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator; that the control valve is controlled by modulating switch on-and switch-off

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Applicant's discussion of proportional flow control valves (page 7 last line to page 8 line 1) indicate that proportional poppet valves and proportional spool valves are well known, and therefore is considered admitted by Applicant as functionally equivalent.

Since Meier discloses a control valve which controls a flushing of closed loop, since Gollner teaches modulating a control valve which controls a flushing of closed loop, since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulating valves and since Applicant's Admitted Prior Art teaches that proportional spool valves and proportional poppet valves are functionally equivalent; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional poppet valve for the control valve of Meier, as taught by Gollner, Fluid Power Design Handbook and Applicant's Admitted Prior Art, for the purpose of controlling the amount of fluid flushed from the closed loop.

Conclusion

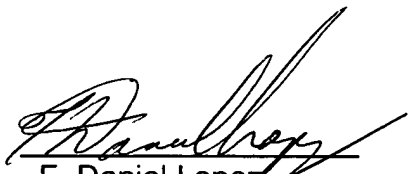
Claims 13-18 are allowable.

This is a continued examination under 37 CFR 1.114 of applicant's earlier Application No. 10-617,990. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
August 12, 2005